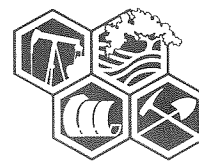


SMARA UPDATE



The Quarterly Newsletter of the Department of Conservation - Office of Mine Reclamation

Department of Conservation's New Enforcement Policy

The Department of Conservation recognizes the importance of communicating to stakeholders its policies on enforcement. It's equally important for the department to understand stakeholder issues and concerns in order to create the best possible environment for achieving the desired result -- proper reclamation of mined lands.

SMARA has been in effect since 1976, with some major amendments earlier in this decade. One change is that the Legislature said January 1, 1994 is the final date for vested mines to obtain approved financial assurances. And in the case of lead agencies which did not act on those financial assurances, vested mine operators could appeal lead agency inaction, and many did.

Among the more perplexing issues the department faces is why, after more than 20 years under SMARA and with possibilities of appeal to the State Mining and Geology Board, any mining operation fails to have an approved reclamation plan. Likewise, after six years of reporting requirements and four years of financial assurance requirements, again with opportunity for appeal to the board, why does any mining operation fail to have an approved financial assurance?

"The department's goal is 100 percent SMARA compliance," said Director Larry Goldzband. "Responsible parties in the mining industry support this goal because 100 percent compliance creates a more equitable business environment for those who are already in compliance."

So how do we get there from here?

Director Goldzband says the department will have a clear, unambiguous SMARA enforcement policy, one that achieves compliance and whose purpose is not to punish but to encourage mine operators to protect the public's health and safety.

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Workshop Wrap-Up

In continuance of the lead agency outreach program initiated with the inception of the quarterly *SMARA Update* newsletter and the 1996-97 SMARA overview workshops, three focus topics are planned for the 1997-98 fiscal year. Based on input received from workshop participants, the Office of Mine Reclamation plans to conduct three half-day sessions on *exemptions and compliance*, two day-and-a-half sessions on *mine inspections and financial assurance cost estimating*, and three one-day sessions on *revegetation*. Workshop locations will be determined by region, based on the highest number of requests for that workshop topic. While previously designed to target government agency personnel, the scope of these workshops will also include operators and consultants.

Details about workshop schedules and locations will be mailed in late summer. If you would like more information, or have suggestions to offer, please contact Deborah Herrmann or Andrew Rush at (916) 323-9198.

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BLM to Revise Surface Management Regulations

As many of you are aware, Secretary of the Interior Bruce Babbitt has directed the Bureau of Land Management to revise the 43 CFR 3809 surface management regulations, which include the notice and plan of operations requirements for minerals "locatable" under the 1872 Mining Law.

In April, BLM announced a "Notice of Intent to Develop an Environmental Impact Statement" for the proposed regulatory revisions. To facilitate public input to the scoping process, BLM held a series of workshops during May in key western states. Office of Mine Reclamation staff participated in the Reno and San Francisco workshops. Stakeholders attending the workshops included representatives of the mining industry, environmental organizations, government agencies, and concerned citizens.

Workshop participants were asked to comment on eight issues identified as areas of concern with the existing regulations, and to address any other issues or concerns they had. The issues on which BLM specifically solicited comments were:

- ☐ Should the definition of "unnecessary or undue degradation" be revised to reflect the use of best available technology and practices?
- ☐ Should BLM incorporate performance standards for the conduct of hardrock mining and reclamation?

- ☐ Should the five-acre threshold for plans of operations be revised?
- ☐ How should coordination with state government be achieved to prevent unnecessary or undue degradation while minimizing duplication of effort?
- ☐ Should timeframes for review of notices and plans-of-operations be changed?
- ☐ Should BLM be allowed to impose administrative penalties?
- ☐ Should BLM clarify what can be considered "casual use?"
- ☐ Should current bonding rules be changed?

A number of additional issues were raised at the May 20 meeting in Reno. Several participants felt that BLM has failed to demonstrate a need to change the current regulations. There was a lot of discussion about performance standards. Most participants seemed to favor outcome based standards over prescriptive standards. On the five-acre threshold issue, opinions varied; some felt the threshold should be increased, others said it should be decreased in "environmentally sensitive" areas. All comments were recorded and will be considered in preparing the Draft EIS.

An ambitious action plan has been adopted for completion of the rulemaking process. BLM anticipates publication of the Draft EIS by April 1998, and completion of the Final EIS by February 1999. Revised regulations are projected to be in place by March 1999.

*James Pompy
Sr. Mining Engineer*

Reclamation Tips



Mining in Alluvial Fans

Alluvial fan deposits provide a significant amount of construction aggregate in semi-arid and arid regions of California. Alluvial fans are ever-changing depositional and erosional systems. The dynamic nature of the alluvial fan is often overlooked when planning a mine operation and formulating a reclamation plan. The potential environmental impacts from alluvial fan mining are similar to those associated with instream mining.

Alluvial fans are formed at the base of mountains in southern California and along the east side of the Sierra Nevada. The fans form like a river delta at the terminus of canyons. During significant storm events, water rich in sediment flows out of the canyons and onto the fans. A network of "stream" channels cover the fan. The network of channels consist of "active" channels and previously active or "abandoned" channels. In the natural system, it is nearly impossible to predict the future location of active channels. Sediment flows on the fan are contingent upon the frequency and size of the summer thunder showers in the mountains above. In semi-arid and arid climates, a 20-year mine operation could experience inundation from sediment flows many times during its lifetime, or not at all.

Reclamation plans for open-pit mining operations in alluvial fans must consider the dynamic nature of the fan. The operator may want to consider positioning equipment away from where the pit intercepts channels

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Department of Conservation's New Enforcement Policy

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"There is a moral imperative here that may not be written into the law but, in my opinion, goes with it hand-in-hand," he said.

"A successful SMARA enforcement policy doesn't simply levy administrative penalties on recalcitrant mine operators. We shall do that if we are offered no choice by those would ignore everything else the department does to ensure good and effective mine reclamation. But that's not our ultimate goal."

That goal, Director Goldzband said, is threefold:

First, educate and train lead agencies so that they can readily explain SMARA's complex requirements to mine operators. This is the foundation from which the department and local governments can work with the industry in a cooperative effort to protect the public and the environment. To accomplish this, the department will continue and expand its current efforts in lead agency training.

Second, the department expects and must promote two-way communication with the mining community. This will allow the department to provide clear, concise and consistent information to operators and lead agencies. Also, this will allow stakeholders to provide as much information as possible so the department understands their needs. This will also help to ensure that no operator can gain an unfair economic advantage over any other by operating illegally.

Finally, the department will have to punish violators.

"Those who ignore or refuse to obey the law, and fail to play by the rules that the vast majority of mine operators play by, will be prosecuted," Director Goldzband said. "There should be no question in anybody's mind about this. Penalties will be forthcoming, and they will be stiff."



Larry Goldzband

Director Goldzband adds that the department will use all remedies available to it under the statute, including financial penalties and, in cases of egregious and long-standing defiance of the law, closure. Referral actions will be sent to the board for lead agencies which choose not to carry out their responsibilities under the law so that the board can choose to assume lead agency jurisdiction if it desires.

"The department prefers to settle cases in which a mine operator is not following SMARA," Goldzband added. "The department believes settlements of administrative penalties are both appropriate and sound public policy if the public is protected by an adequate reclamation plan and financial assurances which would accomplish real-world reclamation. But, if any operator fails to adhere to the conditions of an agreed upon settlement, he or she can expect to receive an additional, higher penalty than the one which would have been applicable prior to the attempted

settlement. The department will propose and accept settlements in good faith, but will penalize those who break that faith."

Reclamation Tips

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so as to not risk burial of equipment during storms. Gentler slopes should be maintained along the upstream and downstream sides of the fan. Slopes of 4:1 (horizontal to vertical) are reasonable. To protect upstream slopes from potential erosion, the slopes should be armored with cobbles during the summer thundershower months. To limit off-site impacts from upstream erosion and downstream scour, pit depth should be relatively shallow, and the pit should be set back a reasonable distance from the property line. The reclamation plan should specify that the upper six to eight inches of material (including cobbles, vegetation, and soil) will be stockpiled as topsoil. Topsoil stockpiles should be located away from active mining and stored in areas least likely to be inundated. Where mining has been completed, topsoil should be reapplied to encourage revegetation and help armor the slopes.

The environmental document prepared pursuant to the California Environmental Quality Act for an alluvial fan mine will have to address potential impacts similar to instream mines. Active channels contain desert riparian species of plants, and provide habitat and food for wildlife. Therefore, potential impacts to the flora and fauna should be addressed. If the pit is on or near the property line, or if the depth of the pit is relatively deep, the potential for off-site impacts must be addressed.

Cathy Gaggini
Engineering Geologist

Setting Revegetation Performance Standards

PART II: HOW TO SAMPLE

Editor's Note: The following is part two of a two-part series on development of revegetation performance standards, excerpted from "Rehabilitation of Disturbed Lands in California: A Decision-Making Guide," by Gail Newton (Department of Conservation publication in preparation).

The SMGB Regulations (Article 9) require that a reclamation plan set forth the revegetation performance standards and that these standards address cover, density and species-richness. The standards are usually derived from baseline data or from data on a reference site.

The most common question besides *what* to sample (covered in Part I: Parameters) is *how* to sample. An in-depth discussion on how to sample necessitates a book; therefore, this article presents only one of the most common methods. For additional methodologies, refer to books on vegetation sampling such as Mueller-Dombois and H. Ellenberg, 1974, "Aims and Methods of Vegetation Ecology," John Wiley and Sons, Inc., or C.D. Bonham, 1988, "Measurements for Terrestrial Vegetation," John Wiley and Sons, Inc. The following discussion provides guidelines on:

- ☐ What size plot do I use?
- ☐ How many samples (plots) do I need?
- ☐ What type/shape of plot do I need?
- ☐ How do I lay the plots out on the site?

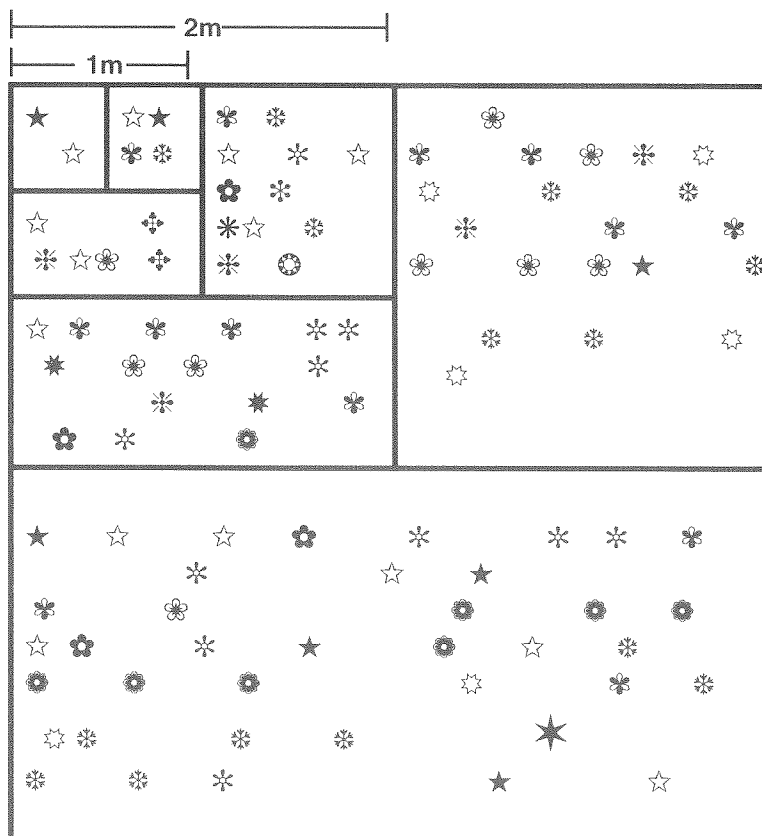


Figure 1. Each symbol represents a different plant species.

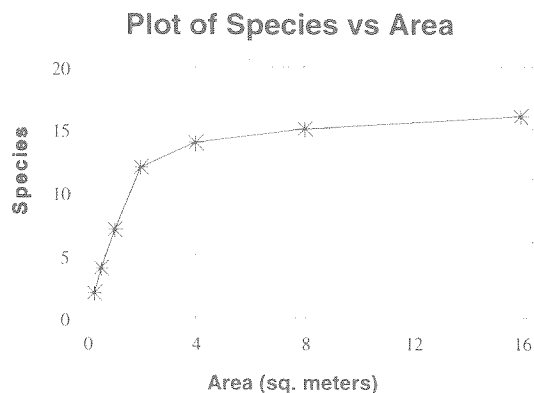


Figure 2.

Determining the Appropriate Size of the Sample Plot: The Species Area Curve.

The smaller the reference area, the easier to visually estimate cover. However, the reference area or plot needs to be an appropriate size so that the variation between the plots is low or minimized. The trick is to pick the smallest plot size for a particular vegetation type that will still keep the variation between the plots lower than the variation within the plots.

The sampler is interested in a plot size in which the species composition of the community is adequately represented. The area being sampled has to be representative, homogenous, and not fragmented. If the area being sampled is not homogenous, then the sampler should first stratify the area into smaller, more homogenous units, and then sample each area separately.

The minimum area of the plot is determined by progressively sampling a larger area and plotting the cumulative total number of species by the size of the plot. For example (Figure 1), lay out a plot of 0.25m² and count the number of species present (2). Then double your plot size (0.50m²) and count any additional species(2); then double that plot to 1m² and count any additional species (3), etc, until the number of species added to the list becomes very few (Table 1). Graph the cumulative number of species (i.e., 2, 4, 7...) by the plot size (0.25, 0.50, 1). The minimum sampling area is the point at which the curve levels off (4 m² in Figure 2). Other considerations in determining the size of the plot are ease in estimating parameters, cost, and available time. Table 2 provides general recommendations for plot size which may be used in lieu of deriving a site-specific plot size.

Determining the Number of Plots Needed: The 80% Confidence and Precision Level.

Determining the number of plots needed to adequately sample an area with an 80% confidence and precision level is an iterative process. Since vegetation data usually does not follow a normal distribution, one can determine the minimum sample size based on probability theory alone. The result and the answer you have all been waiting for is 14. Therefore, a researcher who wishes to forego any calculations could probably use a sample size of not less than 14 for most vegetation types, assuming the sampling frame (plot) is of adequate size.

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TABLE 1:

AREA IN METERS ²	CUMULATIVE TOTAL SPECIES	NEW SPECIES ADDED
0.25	2	0
0.50	4	2
1.0	7	3
2.0	12	5
4.0	14	2
8.0	15	1
16.0	16	1

TABLE 2:

VEGETATION TYPE	PLOT SIZE RANGE (most common)
Grassland or Herb layer	0.25-2 m ² (0.5 m ² , 5 ft ²)
Shrubland or Shrub layer	4-16 m ² (10 m ² , 200 ft ²)
Forest (tree layer only)	100-314 m ² (100 m ² , 0.1 acre)

Setting Revegetation Performance Standards

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Determining the Shape of the Plot.

Plot shapes can be circular, rectangular, square, or a linear belt (belt-transect). And of course, the choice of plot shape (and size) can greatly effect the amount of time it takes to sample a site, so a major consideration should be ease of use.

Smaller plot sizes are easier to use and rectangular plots are more efficient (reduces the variance) than either circular or square plots. The larger the plot the more time it takes to determine the boundaries of the plot. Therefore, shape of frame is often based on ease of determining boundaries with smaller plot sizes often 0.5m² rectangles or 1m² squares, and the larger plots are often belt-transects with dimensions such as 200 feet by 1 foot.

Determining Where to Put the Plots.

Plots should be placed randomly, within reason. The issue here is not to bias your data collection by consciously or unconsciously oversampling or undersampling certain areas. To truly randomize a sample regime takes time and often oversamples some areas while undersampling others. In addition, highly localized species or vegetation types or rare species are often missed. More commonly researchers employ some type of stratified random sampling technique.

As previously stated, to stratify an area means to divide the larger area into small areas of homogenous, representative stands. The ecotones or areas between the stands are avoided. Then within each homogenous area, the location of plots

is randomized. Does this mean that the location of each and every plot has to be independently determined?

Actually, this is an area of debate, with one camp saying yes and the other stating that as long as the first sampling point is located randomly, then all points located using that reference point are random as well.

*Gail Newton
Env. Services Unit Manager*

Executive Officer's Report

At its May 15, 1997, regularly scheduled business meeting held in Bakersfield, the Board took the following actions on these SMARA issues (other non-SMARA issues not addressed below also were acted upon during the meeting):

1. Certified updated mining ordinances for Del Norte and Glenn counties as being in accordance with SMARA pursuant to PRC § 2774.3.
2. Adopted regulatory language amending CCR § 3697 et seq., imposing the annual mine reporting fee schedule by the nonemergency regulatory method as provided for under PRC § 2207. This regulation has been sent to the Office of Administrative Law for final review before being signed into law by the Secretary of State.
3. Recognized the County of San Mateo as a recipient of the annual SMARA Award for excellence in administering its SMARA program. This is the second consecutive year in which the county has won this Department of Conservation award.

In other appellate actions regarding administrative penalties assessed by

the department against operators, the board made the following determinations:

1. P. T. L. Transportation, Plumas County -- upheld a \$500 penalty for failing to file a 1995 annual report and filing fee. In addition to the penalty, the operator is still required to submit the 1995 report and fee.

2. Grieb Ranch Quarry, San Luis Obispo County -- modified a \$10,000 penalty against the operator for not obtaining a lead agency approved financial assurance. Prior to the board hearing, the operator obtained the requisite lead agency approved financial assurances. The board reduced the penalty to \$250 in recognition of the operator's coming into compliance.

The board's next meeting is scheduled for July 10, 1997 in Sacramento.

The board's regulatory language amending California Code of Regulations, Title 14, Division 2, § 3505 exemption from SMARA affecting clean-out activities for flood control strictures was approved by the Office of Administrative Law on April 11, 1997.

*John G. Parrish, Ph.D.
Executive Officer*

Oops!

When identifying the 1997 SMARA lead agency award winners in the last issue of the *SMARA Update*, we inadvertently omitted the name of one of our repeat winners -- San Mateo County. Our sincere apologies, and *congratulations*, to San Mateo County! We appreciate their continuing commitment to implementing the requirements of SMARA.

Compliance Corner

Most lead agencies understand the application of California's Surface Mining and Reclamation Act to private lands. But, what about surface mining activities located on federally managed lands? This issue seems to present some confusion. So, how should the requirements of SMARA be fulfilled?

Surface mining activities located on federally managed land are subject to federal laws and regulations, as well as various state and local requirements, including SMARA and the annual reporting requirements found in Public Resources Code §2207. Questions have arisen from lead agencies about whether or not the Bureau of Land Management or the U.S. Forest Service could function as the SMARA lead agency in fulfilling the requirements of SMARA. The Act very specifically defines a lead agency as "...the city, county...or the board who has primary responsibility for approving a surface mining operation or reclamation plan..." Because federal agencies such as the BLM and USFS are **not** recognized as lead agencies, the responsibility for applying and enforcing the Act's requirements on federal lands remains with the counties.

While federal agencies may not serve as lead agencies under SMARA, they do play an important part in assuring the Act's minimum requirements are met or exceeded. An agreement to help coordinate regulatory responsibilities between the BLM, the USFS and the state was developed in 1979, and was updated in 1992. This agreement is called a Memorandum of Understanding. Applicable to both federal public lands and combinations

of federal public land and private land, the state-federal MOU provides a framework for minimizing or eliminating duplicative requirements. It serves as guidance for local agencies, BLM, USFS and the state in fulfilling these requirements.

The ultimate success of SMARA depends on cooperation between local, state and federal agencies for handling all mining operations in California. Counties are encouraged to enter into local agreements with the BLM and/or USFS to address the coordination of enforcement and monitoring responsibilities, and a process for review and approval of reclamation plans, financial assurances and environmental documents. Many federal district offices and the local lead agencies already work harmoniously together on a myriad of issues; with a formalized process such as a local MOU in place, problems will be minimized, and the goal of a "one-stop process" in areas such as inspections and document review and approval will be that much closer.

To obtain a copy of the state-federal MOU or an example of a specific area MOU, please contact OMR either by telephone (916) 323-9198, by fax (916) 322-4862, or by writing to:

Office of Mine Reclamation
801 K St., MS 09-06
Sacramento, CA 95814

Pam Ceccarelli
Compliance Engineer

Enforcement News

Status of mine operation closure orders

In the last issue of the *SMARA Update*, we reported that the Department of Conservation had taken the unprecedented action of issuing closure orders in March for three mines that had been operating since prior to 1990 without required reclamation plans or financial assurances. The department made site visits and corresponded extensively with the two operators involved prior to initiating enforcement actions. Both operators were given numerous chances to comply with SMARA, but chose to ignore even court-ordered stipulated judgements. All three mines are located within El Dorado County. Up to the time of the orders, the county had taken no action to require compliance by the operators.

The owner of two of these operations, Loring Brunius, has been the subject of numerous citizen complaints. Acting on complaints about the Weber Creek Quarry, the State Mining and Geology Board, following its March regular business meeting, gave El Dorado County 90 days to bring the mine into compliance, or to commence closure actions. At the same meeting, the board found the county's SMARA ordinance to be deficient, and required the county to revise it to meet current state law and policy. (It should be noted that once the problems with the Brunius operation were brought to the county's attention by the board, the county began taking steps toward compliance both on its part and with regard to the noncomplying operations.)

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Enforcement News*Continued from page 7*

Pursuant to SMARA, the State Mining and Geology Board reviewed the closure orders at a special meeting held in April, and agreed with the department that the sites should be closed. However, an extension of the closure dates was recommended so that county action to bring the sites into compliance might be facilitated. Accordingly, Director Larry Goldzband agreed to extend the closure dates for the Brunius operations until June 19, 1997.

The third operation, Eureka Slate Quarry, operated by Rand Ferreira, was ordered closed on April 24. Department staff will

monitor this and any other sites ordered to close for continued mining activities. Should any activities be noted, a permanent injunction will be obtained by the State Attorney General.

The department will continue to review the need to issue closure notices to a number of other noncomplying operations over the next few months.

*Dennis J. O'Bryant
Assistant Director*

The *SMARA Update* is a quarterly publication of the Department of Conservation's Office of Mine Reclamation, 801 K Street, MS 09-06, Sacramento, California 95814, (916) 323-9198, <http://www.consrv.ca.gov/omr/index.html>. The purpose of this publication will be that of imparting the latest in reclamation tips, as well as changes in legislation or interpretation of existing statutes by court decisions.

Director Lawrence J. Goldzband
Chief Deputy Director B.B. Blevins
Deputy Director Pat Meehan
Assistant Director for OMR Dennis J. O'Bryant
Newsletter Editor: Deborah Herrmann

Coming in the next issue of the *SMARA Update*...

"DOC's New Abandoned Mine Program and Task Force"

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